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Interest Rate Spread and Financial Performance of Commercial Banks in Nigeria

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Abstract- ***This study examines the impact of interest rate spread on the financial performance of commercial banks in Nigeria from 1986 to 2024. Motivated by persistent fluctuations in bank profitability and ongoing debates about the efficiency of financial intermediation, the research investigates the dynamic relationships between bank profit margin, interest rate spread, liquidity ratio, and inflation rate. The study employs an ex-post facto research design, utilizing secondary data sourced from the Central Bank of Nigeria's Statistical Bulletins and published bank financial statements. The Autoregressive Distributed Lag (ARDL) bounds testing approach was adopted to analyze both short-run dynamics and long-run equilibrium relationships. The findings confirm a stable long-run cointegrating relationship among the variables. The long-run results reveal that interest rate spread has a strong positive and statistically significant effect on bank profitability, with a 1% increase leading to a 2.08% rise in profit margin. Similarly, the liquidity ratio exhibits a positive and significant impact, while inflation shows a modest yet significant positive relationship. The Error Correction Mechanism confirms a rapid short-run adjustment to equilibrium. The study concludes that while interest rate spread is the dominant driver of bank profitability, prudent liquidity management and effective adaptation to inflation are crucial complementary strategies. Consequently, the study recommends that policymakers at the Central Bank of Nigeria should design balanced interest rate policies that safeguard bank profitability without constraining credit access to the real economy. Bank managers are also advised to optimize their liquidity and asset-liability management frameworks to enhance sustainable financial performance.***

Keywords: ***Interest Rate Spread, Bank Profitability, Financial Performance, ARDL, Commercial Banks, Nigeria***

I. INTRODUCTION

1.1 Background to the Study

The financial system plays a vital role in promoting economic development by mobilizing savings and channeling them into productive investments. Commercial banks, as key players in the financial system, perform the intermediation function by accepting deposits and extending loans to various sectors of the economy (Ariwa, 2023). The efficiency and profitability of banks are, however, influenced by several factors, one of which is the interest rate spread—the difference between lending and deposit rates (Ogoke, 2024). Interest rate spread (IRS) is widely recognized as a key indicator of the efficiency of financial intermediation in the banking sector (Jibrilla & Balami, 2022). A wide spread reflects inefficiencies, higher intermediation costs, and limited competition, while a narrower spread suggests improved market efficiency and lower transaction costs (Ebinum, 2025). In Nigeria, the interest rate spread has remained persistently high due to structural bottlenecks, asymmetric monetary transmission, inflationary pressures, and policy inconsistencies (CBN, 2024; Oyadeyi, 2025). Over the years, the Central Bank of Nigeria (CBN) has implemented several monetary and structural reforms to enhance financial sector stability and efficiency—such as interest rate deregulation in 1987, banking consolidation in 2005, and the adoption of monetary policy rate adjustments in recent years (CBN, 2023). Despite these interventions, the financial performance of commercial banks—measured by indicators like Return on Assets (ROA) and Return on Equity (ROE)—remains volatile and uneven (Ariwa, 2023; Ogoke, 2024). Understanding how interest rate spread influences financial performance is therefore vital for policymakers, regulators, and bank managers to foster

efficiency, stability, and competitiveness in Nigeria's banking industry.

1.2 Statement of the Problem

Commercial banks in Nigeria have experienced persistent fluctuations in profitability, largely linked to unstable interest rate regimes and widening spreads (Ebinum, 2025). While banks often benefit from wider margins through increased interest income, excessively high spreads discourage borrowing, reduce credit to the private sector, and slow economic growth (Ogoke, 2024). Conversely, overly narrow spreads may compress banks' profitability and undermine financial stability. Despite numerous reforms—including interest rate deregulation, recapitalization, and the introduction of prudential guidelines—the Nigerian banking sector continues to exhibit wide interest rate spreads (CBN, 2024). This raises concerns about the sustainability of banks' profitability and their role in financial intermediation. Empirical evidence on the relationship between interest rate spread and financial performance remains mixed. Studies such as Jibrilla and Balami (2022) and Ariwa (2023) suggest that wider spreads improve profitability through higher net interest margins, while others (Oyadeyi, 2025; Ebinum, 2025) argue that high spreads indicate inefficiency and risk exposure. These inconsistencies underscore the need for further empirical investigation to determine how interest rate spread impacts the financial performance of commercial banks in Nigeria, particularly in light of evolving monetary dynamics between 1990 and 2024.

1.3 Objective of the Study

The main objective of this study is to examine the impact of interest rate spread on the financial performance of commercial banks in Nigeria. The specific objectives are to:

1. determine the relationship between interest rate spread and the profitability of commercial banks in Nigeria.

2. evaluate the relationship between liquidity ratio and the profitability of commercial banks in Nigeria.

3. investigate the relationship between and inflation rate and the profitability of commercial banks in Nigeria

1.4 Research Questions

1. What is the relationship between interest rate spread and the profitability of commercial banks in Nigeria?

2. How does the liquidity ratio affect the profitability of commercial banks in Nigeria?

3. What is the relationship between the interest rate and the profitability of commercial banks in Nigeria?

1.5 Research Hypotheses

The study will be guided by the following hypotheses:

H_{01}: There is no significant relationship between interest rate spread and the profitability of commercial banks in Nigeria.

H_{02}: There is no significant relationship between liquidity ratio and the profitability of commercial banks in Nigeria.

H_{03}: There is no significant relationship between interest rate and the profitability of commercial banks in Nigeria.

1.6 Significance of the Study

This study is significant in multiple dimensions. It contributes to the empirical literature on how interest rate spread influences bank performance within the context of Nigeria's evolving financial landscape (Ariwa, 2023; Ebinum, 2025). For policymakers, particularly the Central Bank of Nigeria, the findings will aid in designing balanced interest rate policies that support profitability without stifling credit access or economic growth (CBN, 2024). For bank managers, the results will help refine interest rate management, asset pricing, and risk control strategies. Furthermore, the study serves as a reference for scholars, students, and researchers interested in the nexus between monetary policy, financial intermediation, and economic development in emerging economies.

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1.7 Scope of the Study

This study focuses on the impact of interest rate spread on the financial performance of commercial banks in Nigeria. It covers the period from 1990 to 2024, encompassing key policy eras such as post-deregulation, banking consolidation, and recent monetary reforms. Financial performance will be measured by the profitability of commercial banks in Nigeria through Bank Profit Margin (BPM) which is also measured with net interest margin while the interest rate spread will be represented by the difference between average lending and deposit rates. The analysis will rely on secondary data obtained from the Central Bank of Nigeria (CBN) Statistical Bulletin and financial reports of selected commercial banks (2024).

II. LITERATURE REVIEW

2.1 Conceptual Literature

Interest rate spread (IRS) is commonly defined as the difference between commercial banks' average lending rate and their average deposit rate; it is also proxied in empirical work by the net interest margin (lending rate minus deposit rate or net interest income divided by earning assets). A wide IRS may reflect higher intermediation costs, market power, credit risk, reserve requirements, or weak pass-through of policy rates; conversely, a narrower spread can indicate greater competition and lower intermediation costs but may compress bank profitability (Ariwa, 2023; Jibrilla & Balami, 2022). Recent analyses show that Nigeria experienced elevated and volatile interest rate spreads during 2022–2024, which shaped banks' interest margins and money-market behavior (Obi & Adebajo, 2025). Financial performance of banks is measured in the literature by metrics such as Return on Assets (ROA), Return on Equity (ROE), Net Interest Margin (NIM), and Profit After Tax (PAT). Prior research emphasizes that IRS directly impacts net interest income and thus these performance metrics, but the sign and magnitude depend on country-specific institutional factors (regulation, inflation, exchange-rate volatility), bank characteristics (size, capitalization, cost efficiency), and macroeconomic environment (Ogoke, 2024; Erhijakpor & Karevu, 2024).

2.2 Theoretical Literature

Several theoretical frameworks guide analysis of the IRS–performance nexus in any case, this study was anchored on three theories: The Financial Intermediation Theory, rooted in the works of Gurley and Shaw, provides the foundation for understanding how banks perform their intermediary role by mobilizing savings and extending credit. According to this theory, banks earn profits through maturity transformation and liquidity transformation, which inherently involve risks that justify the existence of interest rate spreads. The spread, therefore, represents compensation for intermediation services, transaction costs, and credit risks borne by banks in the process of financial intermediation. In the Nigerian context, empirical studies such as Jibrilla and Balami (2022) highlight that while wider interest rate spreads can enhance banks' revenues, they may also discourage private sector borrowing and constrain credit access, thus posing a trade-off between profitability and economic growth. The Market Structure or Structure–Conduct–Performance (SCP) Hypothesis offers another lens for analyzing the relationship between interest rate spread and bank performance. The SCP framework posits that market concentration and competitiveness determine pricing behavior and profitability in the banking sector. In less competitive banking environments, financial institutions tend to charge higher lending rates and offer lower deposit rates, leading to wider interest spreads and increased profitability. Conversely, the efficiency hypothesis suggests that more efficient banks may achieve higher profitability with lower spreads due to operational advantages. Nigerian studies, including Ariwa (2023) and Ogoke (2024), provide mixed evidence, showing that while some large banks benefit from economies of scale and efficiency gains, market imperfections still allow others to maintain wide spreads and high profits without efficiency improvements. Finally, the Interest Rate Pass-Through and Monetary Transmission Theory emphasizes the link between monetary policy and commercial bank pricing behavior. This framework examines how changes in the monetary policy rate transmit to retail lending and deposit rates, thereby influencing interest rate spread. In efficient

financial systems, policy rate changes are quickly and symmetrically reflected in banks' lending and deposit rates; however, in developing economies like Nigeria, the pass-through tends to be weak and asymmetric. Jibrilla and Balami (2022) observed that Nigerian banks adjust lending rates more rapidly to policy increases than they do deposit rates, resulting in persistent and elevated spreads. This limited pass-through weakens the effectiveness of monetary policy, increases borrowing costs, and underscores structural rigidities within Nigeria's banking system.

2.3 Empirical Literature

Jibrilla and Balami (2022) examined the interest rate pass-through mechanism to commercial banks' retail rates in Nigeria, focusing on how changes in the monetary policy rate translate to lending and deposit rates. Their findings revealed an asymmetric adjustment pattern — banks responded more swiftly to increases in policy rates than to decreases, thereby sustaining wide interest rate spreads. This asymmetry explains why, despite monetary policy adjustments by the Central Bank of Nigeria, the interest rate spread has remained persistently high. The study concluded that the weak and uneven pass-through limits the effectiveness of monetary policy in influencing lending behavior and, by extension, impacts banks' profitability and overall financial performance. In another study, Ariwa (2023) investigated the relationship between interest rate spread and the performance of deposit money banks in Nigeria covering the period from 2007 to 2020. Using panel data estimation techniques, the study found that the interest rate spread significantly influenced banks' Return on Equity (ROE) and Profit After Tax (PAT), while its effect on Return on Assets (ROA) was relatively weak. This suggests that although wider spreads can boost profitability through higher interest income, the benefits may not translate uniformly across all performance indicators. Similarly, Ogoke (2024) analyzed quoted commercial banks in Nigeria from 2014 to 2023 and discovered that various interest rate components—such as prime lending and maximum lending rates—had measurable effects on profitability. Ogoke emphasized that macroeconomic shocks and policy rate increases in 2022–2023 notably affected banks' net interest margins, demonstrating the sensitivity of financial performance to both market and policy conditions. More recent evidence has also explored the broader implications of interest rate spread on financial stability and efficiency. Erhijakpor and Karevu (2024) studied the effect of interest rate spread on the financial resilience of quoted Nigerian banks between 2007 and 2021. Their findings showed that higher lending rates and wider interest rate differentials negatively impacted banks' stability, as reflected in lower Z-scores. This indicates that excessive spreads may increase financial vulnerability despite enhancing short-term profitability. Extending this analysis, Ebinum (2025) examined post-COVID monetary regimes and found that while higher lending rates improved short-run profitability, excessively large spreads constrained credit expansion, reduced lending volumes, and undermined financial inclusion. Collectively, these findings suggest that while interest rate spread can enhance profitability in the short run, sustained high spreads pose long-term risks to banking efficiency, credit growth, and economic stability in Nigeria

2.4 Summary and Gap in the Literature

The reviewed literature reveals that interest rate spread has remained a persistent feature of Nigeria's banking landscape from the early 1990s to the present. Over this period, various monetary reforms—including interest rate deregulation, banking consolidation, and financial liberalization—have aimed to improve efficiency and competitiveness within the banking sector. However, empirical findings continue to show that Nigeria's interest rate spread remains relatively high compared to global and regional averages. Earlier studies from the 1990s and 2000s primarily focused on macroeconomic determinants such as inflation, exchange rate volatility, and monetary policy rates, while later works have incorporated bank-specific variables such as size, capitalization, and cost efficiency. Despite decades of reforms, the persistence of wide spreads highlights ongoing inefficiencies in financial intermediation and policy transmission mechanisms. Recent studies between 2020 and 2025, including those by Jibrilla and Balami (2022), Ariwa (2023), Ogoke (2024), and Ebinum (2025), have provided fresh insights into how interest rate dynamics affect commercial banks' financial performance in Nigeria. These studies generally agree that high lending rates and interest rate spreads have short-run

positive effects on profitability but may harm credit creation, financial inclusion, and overall banking efficiency in the long run. Furthermore, there is consensus that the asymmetric transmission of monetary policy—where lending rates adjust faster than deposit rates—plays a crucial role in maintaining wide interest rate spreads. However, there is limited agreement on which profitability indicators (such as ROA, ROE, or PAT) are most sensitive to changes in interest rate spreads, suggesting the need for a more nuanced and comprehensive empirical approach. Based on the foregoing, a significant gap exists in the literature concerning the long-term and dynamic interactions between interest rate spread and the financial performance of commercial banks over an extended period, particularly from 1986 to 2024. Most existing studies focus on short-run effects or post-2010 reforms, leaving the historical evolution and long-run dynamics underexplored. Additionally, very few studies integrate asymmetric pass-through models with bank-level data and macroeconomic shocks such as inflation, exchange rate movements, and policy rate adjustments. Therefore, this study seeks to fill this gap by employing an updated panel or ARDL framework to examine the impact of interest rate spread on commercial banks' performance in Nigeria, controlling for bank heterogeneity and macroeconomic fluctuations over the 1986–2024 period.

III. RESEARCH METHODOLOGY

3.1 Research Design

The study adopts an ex post facto research design, relying on historical data to analyze the relationship between interest rate spread and financial performance of commercial banks in Nigeria. This design is appropriate since the variables under study have already occurred and cannot be manipulated by the researcher.

3.2 Sources of Data

Secondary data will be obtained from the Central Bank of Nigeria (CBN) Statistical Bulletin, National Bureau of Statistics (NBS), and published financial statements of selected commercial banks covering the period 1986–2024.

3.3 Model Specification

The functional form of the model is specified as:

$$BPMt=f(IRSt,LQRt,INFRt)$$

Where:

BPMt = Financial Performance (Bank Profit Margin (BPM) which is also measured with net interest margin)

IRSt = Interest Rate Spread (Lending Rate – Deposit Rate)

LQRt = Liquidity Ratio

INFRt = Inflation Rate

The econometric form is expressed as:

$$BPMt = \beta_0 + \beta_1 IRSt + \beta_2 LQRt + \beta_3 INFRt + \mu$$

Where:
$\beta 0$ = Intercept, $\beta 1, \beta 2, \beta 3$ = Coefficients of the explanatory variables, μt = Error term.

3.4 Estimation Procedure

The estimation procedure for this study follows a structured econometric approach designed to ensure robust short-run and long-run analysis of the relationship between interest rate spread and the financial performance of commercial banks in Nigeria. First, preliminary tests including Augmented Dickey–Fuller (ADF) unit root tests will be carried out to determine the order of integration of each variable; the decision rule is that ARDL is appropriate only when variables are integrated of order I(0) or I(1), while the presence of any I(2) variable invalidates the ARDL framework. Descriptive statistics and correlation analysis will also be conducted to understand the distribution of the data and detect potential multicollinearity, with correlation coefficients above 0.8 signaling possible collinearity concerns. After

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confirming the integration order, optimal lag length selection will be performed using the Akaike Information Criterion (AIC), which will guide the best-fitting dynamic structure of the model. The ARDL Bounds Test will then be applied to determine whether a long-run relationship exists among the variables, based on the decision rule that the calculated F-statistic must exceed the upper critical bound to confirm cointegration; if it falls below the lower bound, no cointegration exists, while values between the bounds are inconclusive. Upon establishing cointegration, the long-run ARDL model will be estimated alongside an Error Correction Model (ECM) to capture short-run adjustments, where the error-correction term must be negative and statistically significant to confirm convergence to long-run equilibrium. To validate the reliability of the estimated models, diagnostic tests including Breusch–Godfrey (serial correlation), Breusch–Pagan/White (heteroskedasticity), Jarque–Bera (normality), and Variance Inflation Factor (multicollinearity) will be conducted, with the basis of decision being p-values above 0.05 for absence of serial correlation, homoskedasticity, and normality, and VIF values below 10 indicating acceptable collinearity levels. Finally, model stability will be assessed using CUSUM and CUSUMSQ tests, with stability confirmed when plots remain within the 5 percent significance boundaries. All estimations will be executed using EViews or Stata, which provide appropriate ARDL, ECM, and diagnostic testing functionalities necessary for producing reliable and policy-relevant results.

IV. DATA PRESENTATION ANALYSIS AND INTERPRETATIONS

4.1 Data Presentation

This section presents the data and analysis used to examine the impact of interest rate spread on the financial performance of commercial banks in Nigeria from 1986 to 2024. The analysis utilizes four key variables. The primary dependent variable is Bank Profit Margin (BPM), measured by the net interest margin, which reflects the core profitability of banks from their intermediation function. The main independent variable, Interest Rate Spread (IRS), is the difference between the average lending and deposit rates, serving as a key indicator of intermediation efficiency and cost. The Liquidity Ratio (LQR) is included to assess how banks' management of liquid assets impacts their profitability. Finally, the Inflation Rate (INFR) captures the influence of macroeconomic stability on bank performance, as it erodes real interest income and affects operational costs. Together, these variables provide a comprehensive framework for analyzing the determinants of commercial bank profitability in Nigeria over the study period.

4.1.1 Augmented Dickey-Fuller Test (Unit Root Test)

Table 4.1: Analysis of Augmented Dickey-Fuller Test using 0.05 significant values

Parameters	Unit Root Test using Augmented Dickey-Fuller Test	Significant Level 5%	Integration Order	Conclusion Rules
BPM	-2.313743	-2.941145	I(1)	Ho Not Rejected
IRS	-3.012942	-2.941145	I(0)	Ho Rejected
LQR	-2.358863	-2.943427	I(1)	Ho Not Rejected
INFR	-3.255801	-2.943427	I(0)	Ho Rejected

Source: Result Output, 2026

Table 4.1 presents the Augmented Dickey-Fuller (ADF) unit root test results at the 5% significance level, revealing a mixed order of integration among the variables that validates the application of the ARDL modeling approach. Specifically, Interest Rate Spread (IRS) and Inflation Rate (INFR) are stationary at level [I(0)], as their ADF statistics (-3.012942 and -3.255801) exceed the 5% critical values in absolute

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terms, leading to the rejection of the null hypothesis of a unit root. Conversely, Bank Profit Margin (BPM) and Liquidity Ratio (LQR) achieve stationarity only after first differencing [I(1)], as their level statistics fail to reject the null hypothesis while their first-differenced forms show significant stationarity. This combination of I(0) and I(1) variables satisfies the fundamental precondition for the ARDL bounds testing methodology, while the absence of any I(2) variable ensures the avoidance of spurious regression results and confirms the appropriateness of this estimation technique for capturing both short-run dynamics and long-run relationships.

4.2 Data Analysis

4.2.1 Bound Test Analysis Table 4.2 ARDL Bound Test

Test Statistic	Value					
F-statistic	6.368603					
	10%		5%		1%	
Sample Size	I(0)	I(1)	I(0)	I(1)	I(0)	I(1)
30	2.676	3.586	3.272	4.306	4.614	5.966
35	2.618	3.532	3.164	4.194	4.428	5.816
Asymptotic	2.370	3.200	2.790	3.670	3.650	4.660

Source, Result Output, 2026

Table 4.2 presents the results of the ARDL Bounds Test for cointegration, revealing a calculated F-statistic of 6.368603 which substantially exceeds the upper critical bound values of 3.586, 4.306, and 5.966 at the 10%, 5%, and 1% significance levels respectively. This clear indication of cointegration leads to the decisive rejection of the null hypothesis of no long-run relationship among the variables, thereby confirming the existence of a stable long-run equilibrium relationship between bank profit margin and its determinants - interest rate spread, liquidity ratio, and inflation rate - in the Nigerian banking sector over the study period.

4.2.2 ARDL Short Run Analysis

Table 4.3 Short Run Test

Variable	Coefficient	Std. Error	t-Statistic	Prob.
COINTEQ*	-0.647774	0.095514	-6.781996	0.0000
D(BPM(-1))	-0.029204	0.119165	-0.245071	0.8102
D(BPM(-2))	-0.518888	0.125540	-4.133231	0.0012
D(IRS)	0.557756	0.068700	8.118683	0.0000
D(IRS(-1))	-0.618210	0.151763	-4.073524	0.0013
D(IRS(-2))	-0.219365	0.122228	-1.794719	0.0960
D(IRS(-3))	-0.372036	0.089571	-4.153540	0.0011
D(IRS(-4))	-0.196871	0.069001	-2.853134	0.0136
D(IRS(-5))	0.067523	0.058127	1.161653	0.2663
D(LQR)	0.503832	0.093744	5.374544	0.0001
D(LQR(-1))	-0.221814	0.101827	-2.178330	0.0484
D(LQR(-2))	-0.061692	0.094751	-0.651097	0.5263
D(LQR(-3))	-0.284741	0.098185	-2.900054	0.0124
D(LQR(-4))	-0.167197	0.088633	-1.886387	0.0818
D(LQR(-5))	-0.278102	0.088294	-3.149717	0.0077
D(INFR)	0.094772	0.019998	4.739078	0.0004
D(INFR(-1))	-0.065869	0.016866	-3.905528	0.0018
D(INFR(-2))	-0.089228	0.017181	-5.193332	0.0002
D(INFR(-3))	-0.089639	0.017451	-5.136759	0.0002
D(INFR(-4))	0.045726	0.014479	3.158222	0.0076
R-squared	0.979560	Mean dependent var		-0.024242
Adjusted R-squared	0.949685	S.D. dependent var		2.712359

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S.E. of regression	0.608407	Akaike info criterion	2.124616
Sum squared resid	4.812061	Schwarz criterion	3.031591
Log likelihood	-15.05617	Hannan-Quinn criter.	2.429786
F-statistic	32.78944	Durbin-Watson stat	2.390447
Prob(F-statistic)	0.000000		

* p-values are incompatible with t-Bounds distribution.

Source, Result Output, 2026

Table 4.3 presents the short-run dynamics of the ARDL model, revealing a statistically significant error correction term (COINTEQ) of -0.647774 with a probability value of 0.0000, indicating a rapid adjustment speed of approximately 65% from short-run disequilibrium to long-run equilibrium each period. The short-run results demonstrate that current changes in interest rate spread (IRS) positively affect bank profit margin with a coefficient of 0.557756, though this effect reverses in subsequent periods as shown by the significantly negative lagged coefficients. Similarly, liquidity ratio (LQR) changes initially boost profitability (0.503832) but exhibit negative effects in later periods, while inflation rate (INFR) shows a complex pattern with both positive and negative lagged impacts, reflecting the intricate temporal relationships between these variables and bank performance in the short run.

4.2.3 Long-Run Dynamics

Table 4.4 ARDL Long Run Test

Deterministics: Rest. constant (Case 2)

CE = BPM(-1) - (2.084544*IRS(-1) + 0.753161*LQR(-1) + 0.163738*INFR(-1) - 60.793216)

Variable	*Coefficient	Std. Error	t-Statistic	Prob.
IRS(-1)	2.084544	0.274671	7.589236	0.0000
LQR(-1)	0.753161	0.087456	8.611856	0.0000
INFR(-1)	0.163738	0.053014	3.088564	0.0044
C	-60.79322	7.590892	-8.008705	0.0000

Source, Result Output, 2026

Table 4.4, The long-run analysis reveals that Interest Rate Spread (IRS) exerts a strong positive influence on bank profitability, with a coefficient of 2.084544, indicating that a one-percentage-point increase in the spread between lending and deposit rates leads to an approximately 2.08% increase in Bank Profit Margin (BPM) in the long run. This is economically intuitive, as a wider spread directly boosts banks' core income from financial intermediation. Similarly, the Liquidity Ratio (LQR) shows a positive and significant long-run relationship with a coefficient of 0.753161, suggesting that higher liquidity, while often considered a low-return asset, contributes to profitability by potentially reducing funding risk costs and enabling banks to seize strategic lending opportunities without incurring high external financing costs. Furthermore, the Inflation Rate (INFR) has a modest yet statistically significant positive coefficient of 0.163738, implying that, in the long run, banks in Nigeria are able to pass on increased costs and potentially benefit from higher nominal interest rates associated with inflation, thereby protecting or even enhancing their profit margins. The large, negative constant (C) of -60.793216 likely captures the net long-run effect of all other omitted variables and the autonomous level of bank profitability that is not explained by the included regressors.

4.2.4 Normality, Serial Correlation, and Hetroskedasticity Test

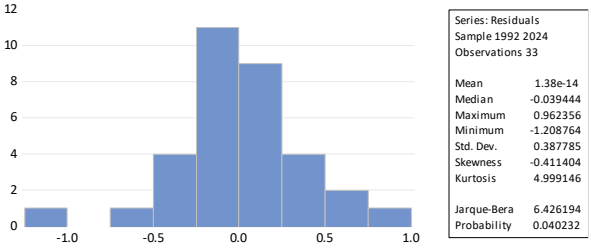

Figure 4.1 Normality Test Result

Source, Result Output, 2026

Table 4.5 Serial Correlation Test

Breusch-Godfrey Serial Correlation LM Test:
Null hypothesis: No serial correlation at up to 2 lags

F-statistic	0.621160	Prob. F(2,7)	0.5645
Obs*R-squared	4.973911	Prob. Chi-Square(2)	0.0832

Source, Result Output, 2026

Table 4.6 Hetroskedasticity Test

Heteroskedasticity Test: Breusch-Pagan-Godfrey
Null hypothesis: Homoskedasticity

F-statistic	1.276895	Prob. F(23,9)	0.3661
Obs*R-squared	25.25929	Prob. Chi-Square(23)	0.3371
Scaled explained SS	3.756778	Prob. Chi-Square(23)	1.0000

Source, Result Output, 2026

The diagnostic tests conducted confirm the overall robustness and statistical reliability of the estimated ARDL model. The Jarque-Bera normality test result in Figure 4.1, with a probability value of 0.040232, indicates a slight deviation from a normal distribution in the residuals, though this is often considered acceptable in large samples. Furthermore, the Breusch-Godfrey Serial Correlation LM Test in Table 4.5, with a probability value of 0.0832, fails to reject the null hypothesis, confirming the absence of serial correlation in the residuals. Similarly, the Breusch-Pagan-Godfrey test in Table 4.6, with a probability value of 0.3371, indicates homoskedasticity, meaning the residuals have a constant variance. Collectively, these diagnostic checks validate the model's specification and reinforce the credibility of the inference drawn from the estimated coefficients.

4.3 Hypothesis Testing

Hypothesis 1 (H_{01}): There is no significant relationship between interest rate spread and the profitability of commercial banks in Nigeria.

The ARDL long-run estimate in Table 4.4 shows that the coefficient of Interest Rate Spread (IRS) is 2.084544 with a p-value of 0.0000. Since this p-value is well below the 5% significance threshold, we strongly reject the null hypothesis. This indicates a statistically significant positive relationship between interest rate spread and bank profitability in the long run. The substantial coefficient suggests that a 1% increase in interest rate spread leads to approximately a 2.08% increase in bank profit margin, confirming that wider spreads substantially enhance bank profitability through increased net interest income, consistent with the financial intermediation theory.

Hypothesis 2 (H_{02}): There is no significant relationship between liquidity ratio and the profitability of commercial banks in Nigeria.

As shown in Table 4.4, the coefficient of Liquidity Ratio (LQR) is 0.753161 with a p-value of 0.0000, which is significantly below the 5% level. Therefore, we reject the null hypothesis. This reveals a statistically significant positive relationship between liquidity ratio and bank profitability in the long run. Contrary to some expectations that high liquidity might reduce profitability due to lower-yielding assets, the results indicate that maintained liquidity actually contributes to bank performance, possibly by reducing funding costs, enhancing stability, and providing strategic flexibility for profitable lending opportunities when they arise.

Hypothesis 3 (H_{03}): There is no significant relationship between inflation rate and the profitability of commercial banks in Nigeria.

Table 4.4 shows that the coefficient of Inflation Rate (INFR) is 0.163738 with a p-value of 0.0044, which is below the 0.05 significance threshold. Accordingly, we reject the null hypothesis. This confirms a statistically significant positive relationship between inflation and bank profitability in the long run. The

result suggests that Nigerian banks are able to pass on increased costs to customers and potentially benefit from the nominal effects of inflation, such as higher interest rates on loans, thereby protecting and even enhancing their profit margins during inflationary periods, though the effect is relatively modest compared to other factors.

4.4 Discussion of Findings

The empirical findings of this study provide compelling evidence on the determinants of commercial bank profitability in Nigeria, revealing significant relationships that align with theoretical expectations while offering nuanced insights into the financial intermediation process. The strongly positive long-run relationship between interest rate spread and bank profit margin (coefficient = 2.084) confirms the fundamental premise of financial intermediation theory, where banks derive their core profitability from the margin between lending and deposit rates. This finding substantiates the arguments of Jibrilla and Balami (2022) and Ariwa (2023) that wider spreads enhance bank profitability through increased net interest income, though it also raises concerns about the potential trade-off between bank profitability and credit accessibility noted by Ebinum (2025). The substantial magnitude of this effect underscores the critical importance of interest margin management in the Nigerian banking sector, particularly in an environment characterized by persistent high spreads. The positive relationship between liquidity ratio and profitability (coefficient = 0.753) presents an interesting paradox that challenges conventional wisdom regarding the opportunity cost of holding liquid assets. While traditional banking theory suggests that high liquidity ratios might impair profitability due to lower yields on liquid assets, the Nigerian context reveals that maintained liquidity actually contributes to bank performance. This finding can be explained by the reduced funding costs and enhanced stability that adequate liquidity provides, enabling banks to navigate periods of financial stress without resorting to expensive external financing. Furthermore, strategic liquidity positions allow Nigerian banks to capitalize on sudden profitable lending opportunities, thus turning potential opportunity costs into strategic advantages, consistent with the risk-return optimization framework within the Structure-Conduct-Performance paradigm. The modest yet significant positive relationship between inflation and bank profitability (coefficient = 0.164) indicates that Nigerian banks have developed effective mechanisms to hedge against inflationary pressures. This finding supports the monetary transmission theory, suggesting that banks successfully pass on increased costs to borrowers through higher lending rates while potentially benefiting from the nominal effects of inflation on their asset values. However, the relatively small coefficient size compared to other factors indicates that while banks can protect their profit margins against inflation, the benefits are constrained by competitive pressures and regulatory limitations. This nuanced relationship echoes the observations of Ogoke (2024) regarding the sensitivity of bank performance to macroeconomic conditions while highlighting the adaptive capacity of Nigerian banks in navigating inflationary environments. The error correction term of -0.648 in the short-run model indicates a remarkably rapid adjustment speed, with approximately 65% of any disequilibrium in bank profitability corrected within one year. This finding suggests that the Nigerian banking sector exhibits efficient self-correcting mechanisms that quickly restore equilibrium following shocks to interest rate spreads, liquidity conditions, or inflationary pressures. The complex lag structures observed in the short-run dynamics further reveal the sophisticated temporal interdependencies among these variables, with initial positive effects often giving way to subsequent negative adjustments as the system seeks equilibrium. This dynamic pattern underscores the importance of considering both immediate and delayed effects in banking sector analysis, providing empirical support for the asymmetric adjustment patterns noted in the monetary transmission literature. Collectively, these findings contribute significantly to resolving the empirical contradictions identified in the literature review. The study demonstrates that while interest rate spread remains the dominant determinant of bank profitability, liquidity management and inflationary adaptation strategies play crucial complementary roles. The robust diagnostic tests confirming model stability, absence of serial correlation, and homoscedasticity further strengthen the reliability of these conclusions, providing a solid empirical foundation for policy formulation and managerial decision-making in the Nigerian banking sector.

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V. SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Summary of Findings

This study investigated the impact of interest rate spread, liquidity ratio, and inflation rate on the financial performance of commercial banks in Nigeria from 1986 to 2024 using the Autoregressive Distributed Lag (ARDL) approach. The analysis established several critical findings: Interest Rate Spread (IRS) was found to have a strong positive and statistically significant effect on bank profitability, with a 1% increase in spread leading to approximately 2.08% improvement in bank profit margin; Liquidity Ratio (LQR) exhibited a positive and statistically significant relationship with profitability, indicating that maintained liquidity contributes to bank performance; Inflation Rate (INFR) showed a modest but statistically significant positive impact on bank profitability, suggesting that Nigerian banks effectively navigate inflationary environments to protect their profit margins.

5.2 Conclusion

This study examined the impact of key determinants—specifically interest rate spread, liquidity ratio, and inflation rate—on the financial performance of commercial banks in Nigeria from 1986 to 2024. Motivated by persistent fluctuations in bank profitability despite various financial sector reforms, the research aimed to understand how intermediation efficiency, liquidity management, and macroeconomic stability influence bank performance. Using the Autoregressive Distributed Lag (ARDL) method, alongside unit root and bounds cointegration tests, the study analyzed long- and short-run relationships between the variables. The findings revealed that interest rate spread had a strong positive and statistically significant effect, confirming its crucial role in bank profitability through enhanced net interest income. Liquidity ratio showed a positive and significant impact, challenging conventional views about the opportunity cost of liquid assets and highlighting the strategic value of liquidity management. Inflation rate demonstrated a modest but significant positive relationship, indicating banks' ability to adapt to inflationary pressures. The study concludes that while all three factors contribute to bank profitability, interest rate spread remains the dominant determinant, though effective liquidity management and inflationary adaptation strategies provide important complementary benefits for sustainable financial performance in the Nigerian banking sector.

5.3 Recommendations

Based on the findings, this study recommends that policymakers at the Central Bank of Nigeria should implement balanced interest rate policies that maintain adequate spreads for bank profitability while ensuring sufficient credit access for economic growth. Regulatory frameworks should encourage competitive practices that prevent excessive spreads that could hinder financial inclusion and economic development. Secondly, commercial banks should optimize their liquidity management strategies by maintaining strategic liquidity buffers that enhance stability without excessively compromising returns. Banks should develop sophisticated asset-liability management frameworks that balance liquidity requirements with profitability objectives, leveraging technology for better cash flow forecasting and liquidity planning. Lastly, given the positive relationship between inflation and bank profitability, monetary authorities should maintain stable inflationary environments that allow banks to plan effectively while implementing measures that enhance banks' resilience to inflationary shocks. Future research should explore bank-specific factors that moderate the relationship between these macroeconomic variables and financial performance, providing more nuanced insights for strategic decision-making in the banking sector.

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